

Applicants: George Brainard
Serial No.: 09/853,428
Filed: May 10, 2001
For: PHOTORECEPTOR SYSTEM FOR MELATONIN REGULATION AND PHOTOTHERAPY

Group: 3739
Examiner: Roy Dean Gibson

REMARKS/ARGUMENTS

The present invention relates to Applicant's surprising discovery that human melatonin suppression peaks between 435-488 nm (fig. 11) and that by exposing patients to these wavelengths, light responsive disorders can be treated. Conversely, Applicant has discovered that exposing a patient to light in which these wavelengths have been excluded minimizes circadian and neuroendocrine stimulation or disruption. For example, in other words, exposure to light in which these wavelengths have been excluded will allow one to fall a sleep, while exposure to these wavelengths will stimulate wakefulness.

The claims have been amended to further define the present invention and expedite prosecution. Specifically, claims 4, 7 – 10, 16, and 18 – 19 have been canceled. The remainder of the claims have been amended to recite that the peak sensitivity ranges from 435 – 488nm. Support can be found in Figure 11. The sensitivity range from 435-488 nm relates to the top 25% sensitivity for human melatonin suppression peaks between 435 and 488 nm, as is illustrated in Figure 11 of the present application. Figure 11 describes a spectrally weighted function that is specifically distinct from previously described functions for human day and night vision^{1,2} as well as other light driven photobiological responses³. No new matter has been added by the amendments to the claims.

¹ COMMISSION INTERNATIONALE DE L'ECLAIRAGE: Guide on Interior Lighting, CIE Publication No. 29.2, Vienna, pp. 1 – 113, 1986.

² ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA, ed.: Lighting Handbook: Reference & Application, Illuminating Engineering Society of North America, New York, pp. 1 – 989, 1993.

³ ILLUMINATING ENGINEERING SOCIETY RP-27.1 Photobiological Safety for Lamps and Lamp Systems – General Requirements, 1995.

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Claims 3 – 4 and 15 - 18 stand rejected under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant respectfully submits that the amendments to claims 3 and 15 have obviated this rejection which should therefore be withdrawn. In order to expedite prosecution, claims 4 and 16 – 18 have been canceled. Accordingly, the rejection has been obviated and should be withdrawn.

Claims 1, 2, 5 and 11 - 14 stand rejected under 35 U.S.C. 102(b) as being anticipated by Waldman (5,447,527).

Applicant respectfully disagrees and request that this rejection be withdrawn for the following reasons.

As noted above, the claims now recite a range is from 435 – 488 nm and thus no longer overlap Waldman.

In light of the above and the amendments to the claims, Applicants respectfully requests that the rejection be withdrawn.

Claims 6, 9 and 10 stand rejected under 35 U.S.C. 102(b) as being anticipated by Fujishima et al. (5,855,595).

Applicant respectfully submits that claim 6 specifically excludes the wavelengths from 435-488 nm. This is not taught or suggested by the cited reference and thus there can be no anticipation. Accordingly, Applicant requests that the rejection be withdrawn.

Claims 7 and 8 stand rejected under 35 U.S.C. 102(b) as being anticipated by Girerd (5,083,858).

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Applicant respectfully disagrees and request that this rejection be withdrawn for the following reasons.

In light of the cancellation of claims 7 and 8, the rejection has been obviated and should be withdrawn.

Claim 19 stands rejected under 35 U.S.C. 102(b) as being anticipated by Hegyi (5,235,178).

Applicant respectfully disagrees and request that this rejection be withdrawn for the following reasons.

In light of the cancellation of claim 19, the rejection has been obviated and should be withdrawn.

In light of the above and the amendments to the claims, Applicants respectfully requests that the rejection be withdrawn.

Claims 1, 2 and 5 stand rejected under 35 U.S.C. 102(e) as being anticipated by Goldman (5,923,398).

Applicant respectfully disagrees and request that this rejection be withdrawn for the following reasons.

As noted above, the claims now recite a range from 435 – 488 nm and thus no longer overlap Goldman.

In light of the above and the amendments to the claims, Applicant respectfully requests that the rejection be withdrawn.

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In view of the above and foregoing, it is respectfully submitted that the claims now on file are believed to be in condition for allowance, and prompt and favorable action is earnestly solicited. Should there be any question concerning this response or the application in general, the Examiner is respectfully urged to telephone the undersigned so that prosecution of this application may be expedited.

Authorization is hereby given to the Commissioner to charge any deficient fees or to credit any overpayment to account no. 50-0850.

Date: 7/7/03

Respectfully submitted,



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